

CLAIMS

1. Self adjusting grooved pliers comprising:

a first section having a first jaw portion and a channel formed therethrough, adjacent the first jaw portion;

a second section having a second jaw portion and a pivot extending therefrom and slidably received in the channel to allow wider or narrower association between the first jaw portion and the second jaw portion, the pivot pivotally coupling the first section to the second section for movement between an open position and a gripping position;

a plurality of grooves formed in one of the first section and the second section; and

a tongue extending from the other of the first section and the second section, the tongue being received in one of the plurality of grooves, locking the pivot in position within the channel upon the first section and the second section reaching the gripping position.

2. Self adjusting grooved pliers as claimed in claim 1 wherein the tongue is positioned and sized to be received in one of the plurality of grooves only upon the first section and the second section reaching the gripping position.

3. Self adjusting grooved pliers as claimed in claim 1 wherein the grooves are formed by a plurality of raised ridges each having a leading edge and a slanted leading face slanting back therefrom.

4. Self adjusting grooved pliers as claimed in claim 3 wherein the tongue has a leading edge and a slanted leading face slanting back therefrom, the leading face of the tongue and the leading face of the grooves act in concert as a centering mechanism.

5. Self adjusting grooved pliers as claimed in claim 1 further including a biasing assembly which acts on the pivot, urging the pivot upward in the channel toward the first jaw portion.

6. Self adjusting grooved pliers as claimed in claim 5 wherein the biasing assembly includes a coil spring fitted into a handle portion of the first section and an extension member having an end engaging the coil spring and an opposing end extending into the channel and engaging the pivot, cooperating to urge the pivot in the channel toward the first jaw portion.

7. Self adjusting grooved pliers as claimed in claim 6 wherein the extension member is formed of a spring material.

8. Self adjusting pliers as claimed in claim 6 wherein the biasing assembly includes a post extending from the pivot into a receptacle extending from the first section and a coil spring carried by the post within the receptacle, the compression spring compressed between the pivot and the receptacle.

9. Self adjusting pliers as claimed in claim 1 wherein the second jaw portion of the second section is carried by a jaw element pivotally coupled to the second section, the jaw element movable between a start position and a finish position, the jaw element being biased into the start position by a biasing member.

10. Self adjusting grooved pliers comprising:

a first section having a jaw portion and a channel formed therethrough, adjacent the jaw portion;

a second section having a jaw portion and a pivot extending therefrom and slidably received in the channel to allow wider or narrower association between the jaw portion of the first section and the jaw portion of the second section, the pivot pivotally coupling the first section to the second section for movement between an open position and a gripping position;

a plurality of grooves formed in the first section;

a tongue extending from the second section, the tongue being received in one of the plurality of grooves, locking the pivot in position within the channel only upon the first section and the second section reaching the gripping position; and

a biasing assembly which acts on the pivot, urging the pivot upward in the channel toward the jaw portion of the first section.

11. Self adjusting grooved pliers as claimed in claim 10 wherein the grooves are formed by a plurality of raised ridges each having a leading edge and a slanted leading face slanting back therefrom.

12. Self adjusting grooved pliers as claimed in claim 11 wherein the tongue has a leading edge and a slanted leading face slanting back therefrom, the leading face of the tongue and the leading face of the grooves act in concert as a centering mechanism.

13. Self adjusting grooved pliers as claimed in claim 10 wherein the biasing assembly includes a coil spring fitted into a handle portion of the first section and an extension member having an end engaging the coil spring and an opposing end extending into the channel and engaging the pivot, cooperating to urge the pivot in the channel toward the jaw portion of the first section.

14. Self adjusting grooved pliers as claimed in claim 13 wherein the extension member is formed of a spring material.

15. Self adjusting pliers as claimed in claim 10 wherein the biasing assembly includes a post extending from the pivot into a receptacle extending from the first section and a coil spring carried by the post within the receptacle, the compression spring compressed between the pivot and the receptacle.

16. Self adjusting pliers as claimed in claim 10 wherein the jaw portion of the second section is carried by a jaw element pivotally coupled to the second section, the jaw element movable between a start position and a finish position, the jaw element being biased into the start position by a biasing member.